

REMARKS

Section A summarizes the status of the claims. Sections B through D respond to the 35 USC 102 and 103 rejections and the objections of the Office Action of December 12, 2004 in the order in which they appeared in the Action.

A. Status of Claims

Claims 1-67 are pending in the application. Claims 13-67 are withdrawn from consideration. Claims 1-6 and 8-10 were rejected under 35 USC 102(a) as being anticipated by Lee et al., US Patent Application No. 09/927648. Claim 7 was objected to. Claims 11-12 were rejected under 35 USC 103(a) as being unpatentable over Lee et al. in view of Li et al., US Patent No. 6,627,530.

B. Rejections, 35 USC 102(a): Claims 1-6 and 8-10

Claim 1 recites a method of forming an active device, the method comprising: performing a first patterning operation on a first plurality of layers, the first patterning operation defining a first feature of the active device; and performing a second patterning operation on at least one patterned layer of the first plurality of layers, the second patterning operation defining a second feature of the active device, wherein the first and second patterning operations are performed substantially back-to-back.

Applicants point out that the claim recites that the two patterning steps “are performed substantially back-to-back.” As described in the specification of the present invention, the term “back-to-back” specifically means that the second patterning operation is performed immediately after the first, *without the interposition of a dielectric fill step*. A purpose of the present invention is to prevent the unintended formation of conductive “stringers” which provide unwanted electrical connections between adjacent

pillars. The stringers are formed when conductive material is trapped underneath overhanging dielectric fill during the second etch. In the present invention, by forming the pillars in two back-to-back patterning steps, with no dielectric fill deposited between the patterning steps, no stringers can be formed.

The Examiner points to the following summary in the present application of fabrication methods described in Lee et al.:

When pillar structures are formed, a typical procedure would be to etch a first plurality of layers into strips in a first direction, *fill the spaces in between the strips with a dielectric*, deposit a second plurality of layers, and then etch both second and first plurality of layers in a second direction, orthogonal to the first ... (emphasis added)

In the procedure described in this paragraph, after the first patterning step, *a dielectric fill step is performed*, followed by a deposition step; only then is the second patterning step performed. As a dielectric fill step is interposed between the first and second patterning steps of Lee et al., then, these steps cannot be described as “back-to-back.”

Thus claim 1 and its dependent claims 2-13 distinguish over the cited art.

Reconsideration is respectfully requested.

C. Objections: Claim 7

Claim 7 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Applicants appreciate the indication of allowable subject matter.

D. Rejections, 35 USC 103(a): Claims 11-12

Claims 11 and 12 depend from claim 1, and thus distinguish over the cited art for the reasons described in Section B in the response to the rejection of claims 1-6 and 8-10.

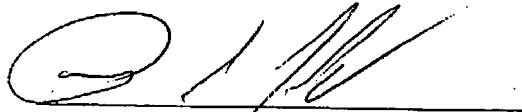
CONCLUSION

In view of these amendments and remarks, Applicants submit that this application is in condition for allowance. Reconsideration is respectfully requested. **If any objections or rejections remain, Applicants respectfully request an interview to discuss the references.** If the Examiner has any questions, she is asked to contact the undersigned agent at (408) 869-2921.

If there are any questions concerning this Response, the Examiner is invited to contact the undersigned agent at (408) 869-2921.

Dated: March 10, 2005

Respectfully submitted,



Pamela J. Squyres
Agent for Applicants
Reg. No. 52,246

Matrix Semiconductor
3230 Scott Blvd
Santa Clara, CA 95054
Tel. 408-869-2921